

REMARKS

During a telephone conversation on December 31, 2002, Applicants made a provisional election to prosecute the invention of Group I which includes claims 1 – 9 and 12 – 21. Applicants hereby affirm this election.

In the Office Action the Examiner rejected claims 1 – 9 as anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 4,400,480, issued to Silano. Claim 2 has been cancelled. Silano discloses a process for preparing corrugated paperboard including a crosslinking additive for imparting water resistance to a starch-based corrugating adhesive composition. A water-resistant alkaline curing corrugating adhesive containing starch, an alkali, water and a crosslinking additive is used in the process. Dihydroxyethylene urea is added to the acetone and formaldehyde in the crosslinking additive in an amount effective to react with unreacted formaldehyde in the composition. In contrast to Silano, the present invention discloses a fire retardant composition that contains, as one of its ingredients, (hydroxyalkyl)urea, not dihydroxyethylene urea. The fire retardant composition of the present invention does not contain formaldehyde, acetone or other ingredients required for the adhesive composition of Silano. Further, as there is no formaldehyde present in the composition of the present invention the purpose of the urea is not to react with unreacted formaldehyde. As anticipation under 35 U.S.C. 102(b) requires identity of invention, in view of the significant differences between Silano and the present application, as amended, it is respectfully submitted that claims 1 and 3 – 9 are patentable under 35 U.S.C. 102(b) over Silano.

Claims 1 – 9 and 19 – 21 were rejected as unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 3,635,835, issued to Peterson. Claim 2 has been cancelled. Peterson discloses a gelling system for use in explosive compositions based on an oxidizing agent and one or more fuels or sensitizers. The gelling system comprises the cross-linked reaction product of at least one polymer containing a plurality of pendant groups selected from amide and nitrile functions and at least one crosslinking monomer containing a plurality of –CH₂OR groups bonded to amide nitrogen and wherein R is selected from hydrogen and a lower alkyl of up to four carbon atoms. As opposed to the present invention which does not contain monomers and in which no crosslinking reaction occurs, Peterson requires specific polymers and monomers to perform the

gelling process. Further, one skilled in the art would not be led to the present invention via Peterson. Peterson discloses a system for use in explosives and one skilled in the fire retardant composition art would not look to the explosive art for guidance. Even if one skilled in the art were, for some reason, to look to Peterson, that person would not be led to the present invention. Instead, the result would be a composition requiring certain monomers and polymers which are not part of the present invention and that person would not be led to a composition containing (hydroxyalkyl)urea, such as required by the present invention. Accordingly, Applicants respectfully submit that claims 1, 3 – 9 and 19 – 21 are patentable under 35 U.S.C. 103(a) over Peterson.

Claims 1, 9 and 19 – 21 were rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,437,902, issued to Itoh, or U.S. Patent No. 5,441,560, issued to Chiotis. Itoh discloses a fire resistant glass and process for its production. The glass of Itoh contains an open space which is filled with an aqueous gel that comprises a polymer of a (meth)acrylamide derivative, a particulate metal oxide, an aqueous medium and an antifreezing agent. Examples 3, 6 and 7, are cited by the Examiner as anticipating the present invention. Those examples, however, require a gel having a minimum of 71% colloidal silica suspension and known gelling agents, such as acryloylpyrrolidine, acrylamide and methylenebisacrylamide. None of those ingredients is required in the composition of the present invention. Chiotis discloses flame retarded organopolysiloxane gels for sealing and protecting electrical contacts. The flame retardant gel of Chiotis is generally opaque due to the high level of flame retardant. In order to permit easier inspection of the contacts, a second transparent gel may also be used in combination with the flame retardant gel. This transparent gel may optionally contain polyurea. In contrast to the gel of the present invention, which promotes flame retardancy, the transparent gel of Chiotis "does not compromise severely the flame resistance of [the] splicer." (Column 8, lines 34 – 35). Further, neither of the cited references disclose the use of (hydroxyalkyl)urea such as in the present invention. As anticipation under 35 U.S.C. 102(b) requires identity of invention, in view of the significant differences between the present invention and Itoh and Chiotis, it is respectfully submitted that claims 1, 9 and 19 – 21 are patentable under 35 U.S.C.

102(b) over Itoh and Chiotis.

Claims 1 and 9 were rejected as under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,676,876, issued to Winkler, U.S. Patent No. 5,125,952, issued to Moore, U.S. Patent No. 4,444,831, issued to Leitner, U.S. Patent No. 4,110,509, issued to Roth or U.S. Patent No. 4,382,884, issued to Rohringer. Winkler discloses a fire fighting foam. The foam is applied to extinguish active fires, including those involving oil, gasoline, diesel fuel and jet fuel. In contrast, the composition of the present invention is not applied to active fires but is instead applied to surfaces to protect them from active fires. As a further contrast, the primary objective of the chemical constituents of Winkler is to create and stabilize the foam bubbles, while the primary objective of the constituents of the present invention is to gel the water so that it will adhere to the substrate to be protected. Moore discloses a storage-stable melamine dispersion. Example 3 of Moore states that a urea may be included in the formulation of a liquid fertilizer. There is no disclosure whatsoever in Moore of a fire retardant composition containing a urea. Leitner discloses a process for rendering textiles flame-retardant by applying a backcoating. The coating of Leitner is intended to impart permanent flame retardancy through residual dry chemicals that are applied to the dry textile. In contrast to Leitner, the present invention provides flame resistance by gelling water for a temporary period of time and adhering it to a substrate, wherein the chemical ingredients serve the useful purpose of creating the high viscosity water-based gel. Roth discloses a process for impregnating a cellulosic textile material with an aqueous solution that will impart flame retardance to the textile. The solution comprises urea in combination with a tetrakis(hydroxymethyl)phosphonium sulfate and ammonium hydroxide. There is no reference in Roth as to how to thicken the ammonium hydroxide or that urea is useful for doing so. Further, unlike that of the present invention, the entire mechanism of fire retardancy is obtained by using chemicals in a dry state as opposed to maintaining water in a gelled form. Finally, Rohringer discloses a fire retardant, intumescent composition comprising ammonium salt, a water-soluble nitrogen compound and dextrin and a process for using that composition. The composition of Rohringer is placed on a substrate to be protected and then dried. This is in direct contrast to the present invention wherein it is the objective to avoid drying the composition and to use the

constituents to maintain the water in a liquid form. Overall, none of the cited references disclose the use of (hydroxyalkyl)urea such as in the present invention. As anticipation under 35 U.S.C. 102(b) requires identity of invention, in view of the differences between the cited references and the present invention, it is respectfully submitted that claims 1 and 9 are patentable under 35 U.S.C. 102(b) over Winkler, Moore, Leitner, Roth and Rohringer.

Claims 19 – 21 were rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 5,062,996, issued to Kaylor, U.S. Patent No. 4,424,291, issued to Leake, U.S. Patent No. 4,246,146, issued to Wood, U.S Patent No. 4,384,988, issued to Schoenholz or U.S. Patent No. 5,190,110, issued to Von Buchler. Kaylor discloses a particulate composition that contains an absorbent solid that is utilized to soak up and render safe flammable liquids. This is in direct contrast to the present invention in which water is converted into a gel. Leake discloses a corrugated adhesive composition that provides superior tack performance. The adhesive is formed by replacing the typical adhesive gelatinized starch carrier with a polymer containing at least 10 wt% carboxyl groups derived from a polymerizable ethylenically unsaturated mono- or polycarboxylic acid or a mixture of these polymers. In direct contrast to the present invention, there is no disclosure whatsoever in Leake of the use of (hydroxyalkyl)urea and there is no requirement in the present invention of the additional elements of Leake. Wood discloses a fire retardant coating system produced by dissolving a water-soluble polyisocyanate prepolymer in either an aqueous slurry or solution of fire retardant materials. The coating is placed on a surface and dried to disperse the fire retardant materials over the surface. This is in direct contrast to the present invention which holds water in a gelled liquid form as a method of fire retardancy. Schoenholz discloses a water barrier gel comprising a water absorbent material selected from the group of insoluble acrylic polymers and mixtures and copolymers thereof, and starch acrylic block copolymers. In contrast to the present invention, Schoenholz employs an insoluble material. The materials of the present invention are soluble. One primary advantage of soluble materials is that they will not plug up or clog hoses and nozzles used in the application of the composition. Von Buchler discloses a fire fighting system comprising a dispersion of particles of a cross-linked, water-insoluble acrylic acid derivative polymer. The disclosure of Von Buchler is in contrast to the

present invention which does not use particles, which potentially could clog hoses and nozzles. Overall, none of the cited references disclose the use of (hydroxyalkyl)urea such as in the present invention. As anticipation under 35 U.S.C. 102(b) requires identity of invention, in view of the differences between the cited references and the present invention, it is respectfully submitted that claims 19 and 21 are patentable under 35 U.S.C. 102(b) over Kaylor, Leake, Wood, Schoenholz and Von Buchler

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance. If there are any issues that the Examiner wishes to discuss, he is invited to contact the undersigned attorney at the telephone number set forth below.

Respectfully submitted,



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